Customer		Date	
Project title		Code No.	

Project description

Working Voltage	☐ 2.4V ~ 3.6V	**CPU Frequency:**	MHz (Max. 1M @ 2.4V)
	☐ 3.6V ~ 5.5V		

ROSC on EMU board: Ω

LCD Matrix: COM   SEG   Duty   **Port $76 =**   (set as low as possible)

Release code file (fill "00H" for unused area)

Binary filename:	**Binary file check sum:**
LCD Display RAM: 64 bytes, $00 ~ $3F	☐ Check
CPU RAM: 128 bytes, $80~$FF	☐ Check
Data RAM: 2K bytes, $1000~$17FF	☐ Check
Program ROM: 30K bytes, $8800-$FFFF	☐ Check
Fill Interrupt Vector: $FFFA-$FFFF	☐ Check

Mask option

32768Hz OSC. (mask option)	☐X'TAL ☐ROSC

Low Voltage Power Down (mask option) ☐Enable   ☐Disable

By checking the enable box, users understand:

When system enters Low Voltage Mode:

1. PA0 power key is the only key wakeup source.
2. Port $7A b0 and b1 will be set to '1' by hardware. After wakeup, users should read $7A to check if it wakes up from Low Voltage Mode.
3. PA0 wakeup will enable 32768Hz Crystal.

Watchdog (mask option)	☐Enable ☐Disable
If Watchdog is enabled, check the followings:	
(A). Watchdog must be tested on EV board.	☐ Check
(B). Watchdog port must be cleared.	☐ Check

Input / Output

Port A $73 (checked by "✓" or "✗")

	b7	b6	b5	b4	b3	b2	b1	b0
Input								
Output								

PortX-Y $74								**PortZ $75**					
	Segment 56 ~ 53				Segment 52 ~ 49						Segment 60 ~ 57			
	b7	b6	b5	b4	b3	b2	b1	b0	b7 (C8)	b6 (C7)	b3	b2	b1	b0
Select one only	☐ Input ☐ Output ☐ LCD segment				☐ Input ☐ Output ☐ LCD segment				☐Input ☐Output ☐LCD Com	☐Input ☐Output ☐LCD Com	☐Input ☐Output ☐LCD segment			

LCD 1/8 duty: C7 and C8 must be Output. 60 Segments: PortX, Y, Z must be Output.   ☐Check

Port $77 (Segment1 ~ Segment 8)	**Port $78** (Segment 9 ~ Segment 16)
Used as key scan output ☐Yes ☐No	Used as key scan output ☐Yes ☐No

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Hardware /Software	
All Instructions used are valid 6502 codes as specified by SUNPLUS (x2s.exe)	☐Check
The R1 (PortA key-scan pull resistor) on ($7E.b2=1) consumes more power; normally, R1 should be set off.	☐Check
Program Tested by EPROM on Emulation Board (CPU internal) (If watchdog is code enabled, make sure the EMU board is also enabled)	☐ Check
The b6 of P_7AH_SystemCtrl ($7A) cannot be set to "1" if 32768Hz X'TAL is applied. In such case, write "1" to b7 to stop ROSC clock. See programming guide for more information.	☐Check

Test Program		
The following test program area and test program vectors are reserved for SUNPLUS. The user's program or data must not be in these ROM areas.		
Test Program Area	$8000 ~ $87FF	☐Check
Test Program Vector	$FFF2 ~ $FFF7	☐Check

General programming checklist	
The general programming checklist intends to provide some general characteristics about SUNPLUS devices. It is the customer's responsibility to check all the information in the list. No responsibility is assumed by SUNPLUS for any non-checked box even this confirmation sheet has been approved by SUNPLUS. Make sure the following conditions are met and verified:	
CPU stack pointer must be reset after system power-on and wake-up.	☐Check
All RAM must be initialized after power on.	☐Check
Timer content must be initialized before timer interrupt is enabled.	☐Check
Do not enable interrupt before initializing RAM.	☐Check
The instructions of "SEI" and "CLI" must be removed from the IRQ and NMI service routines.	☐Check
Sleep port must be cleared and re-initialized before entering sleep mode.	☐Check
The used RAM not over the stack reserved area.	☐Check
Correct RAM/ROM size and start addresses.	☐Check
No current drain on I/O in sleep mode. No I/O remains floating in sleep mode.	☐Check
Non-used I/O ports should be masked off (for input process). Example (suppose PortA [7:4] are invalid): LDA PortA ; read I/O port A Data AND #0FH ; mask off high nibble	☐Check

Document version
Programming guide title and version:
User's guide title and version:
Other documents (if any):

Development tool / board version
EV board version:
EV chip version:
Piggyback / demo board version:
Software / Hardware tools version:

Customer note	SUNPLUS note
Name(print): _____ Tel:_____	Name(print): _____ Tel:_____
Signature:_____	Signature:_____

Note: Please send/fax this form to SUNPLUS. SUNPLUS will return it back with signature.

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